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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,432	11/19/2003	Makoto Miyake	60188-709	5345

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EXAMINER

CRIBBS, MALCOLM D

ART UNIT	PAPER NUMBER
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2115

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/715,432	Applicant(s) MIYAKE ET AL.	
	Examiner Malcolm D. Cribbs	Art Unit 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

**Claims 1-3, 5-7 are presented for examination.**

5

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**Claims 1-3, 5, and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [AAPA] in view of Suzuki [US Patent No. 6,256,520] in further view of Yoshikawa et al [Publication No. US 2002/0105817] [hereinafter referred to as Ref. 3].

20

**As per claims 1 and 2**, AAPA teaches the invention comprising:  
a data communication apparatus for data communication via cables [Page 1, lines 11-15]

25

AAPA does not teach the process of detecting a drop in power supply. Specifically, AAPA teaches the process of stopping communication upon detecting a malfunction cause from a halting of power supply voltage. However, AAPA fails to detail what happens to the data being sent to a receiver with no power during a malfunction.

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A routineer in the art would have been motivated to look for a teaching for the possible handling of the data being sent during a malfunction state.

Suzuki teaches another method of data transmission wherein the data being sent  
5 during a stopped communication state is stored in RAM. In addition, Suzuki teaches a voltage detection section [Fig. 2 section 4] for outputting a signal to a control section [Fig. 2 section 8] to stop data communication based on a voltage drop [Col 3 lines 35-40 and Col 5 lines 25-28]. In summary, Suzuki teaches a method of for storing data sent during a stopped communication period, based on a detected voltage drop, instead of  
10 losing the data sent during the malfunction period.

It would have been obvious to one of ordinary skill in the art to combine the teachings of AAPA and Suzuki, which are analogous art, because the both teach a method of communicating data and detecting a voltage drop. Suzuki covers the  
15 deficiency of AAPA by teaching the detail of stopping communication when a voltage drop is detected.

AAPA and Suzuki do not disclose the drop detecting circuit including a voltage converting circuit and a comparator.

20 Ref. 3 teaches a system capable of detecting a drop in voltage further including a voltage converting circuit [Fig. 3, circuit 7] having an outputting voltage that varies

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depending on a drop in the power supply voltage [Page 2, [0033]-[0036]]; and a comparator [Fig. 3, circuit 8] for comparing a voltage variation signal output from the voltage converting circuit [Fig. 3, input A to comparator] with a predetermined constant voltage value [Fig. 3, input B to comparator]. Ref. 3 has the additional feature of further  
5 conserving power and detecting a drop in voltage while also compensating for fluctuations of the power caused by the season and operation condition of the load [Page 1, [0011]].

It would have been obvious to one of ordinary skill of the art having the teachings  
10 of AAPA, Suzuki, and Ref. 3 at the time the invention was made, to modify the drop detection circuit of Suzuki to include the voltage comparator and voltage converting circuit as taught by Ref. 3. One of ordinary skill in the art would be motivated to make this combination of including comparing an output of a voltage converting circuit with a predetermined reference in view of the teachings of Ref. 3, as doing so would give the  
15 added benefit of further conserving power and detecting a drop in voltage while also compensating for fluctuation of the power [as taught by Ref. 3 above].

**As per claim 3,** AAPA teaches a common-mode potential setting circuit for setting a common-mode potential of a differential signal to initiate communication at the  
20 cables. It would have been obvious to one of ordinary skill in the art to set the potential to ground therefore stopping communication, as opposed to initiating communication.

**As per claim 5**, Suzuki teaches the claimed invention [Figs 2, 3, and 4; Col 5 lines 25-28; Col 7 lines 9-16].

**As per claim 7**, it is directed to the method of steps to implement the apparatus as set forth in claims 1-6. Therefore it is rejected for the same basis as set forth hereinabove. It would have been obvious to of ordinary skill in the art to halt communication of cables by decreasing the potential at the cables.

**Claim 6** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malcolm D. Cribbs whose telephone number is 571-272-5689. The examiner can normally be reached on M-F 8AM-430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

- 5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10

Malcolm D Cribbs  
Examiner  
Art Unit 2115

December 8, 2006

